No.



200200144

THE OVER DEAMER OF WIELDS

TO ALL TO WHOM THESE PRESENTS SHALL COME;

Progene T. T. C.

MICCENS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS ROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN UCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY

CTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEA, FIELD

'Journey'

In Testimony Therest, I have hereunto set my hand and caused the seal of the Hant Hariety Protection Office to be affixed at the City of Washington, D.C. this sixteenth day of September, in the year two thousand two.

Attack.

gem de

Commissioner Plant Variety Protection Office Agricultural Marketing Service Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

(Instructions and information collection burden statement of	on reverse)		1	Harris Committee and the second	
1. NAME OF OWNER ProGene L.L.C.			2. TEMPORARY DESIGNATION OF EXPERIMENTAL NAME 8687-1g	Journey	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 860 S. Crestline		5. TELEPHONE (Include area code) (509) 488–3977		PVPO NUMBER 20020014	
Othello, WA 99344		A CONTRACTOR	6. FAX (include area code) (509) 488-5289		
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Partnership (Limited Liability Co.)	8. IF INCORPORATE STATE OF INCOR	ED, GIVE PORATION	9. DATE OF INCORPORATION	April 23,2002	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THE Kurt Braunwart 860 S. Crestline Othello, WA 99344	IIS APPLICATION. (First)	person listed will	receive all papers)	FILING AND EXAMINATION FEES: \$ 2705.00 DATE 4/23/2002 CERTIFICATION FEE: \$ 320 DATE 8/29/02	
11. TELEPHONE (Include area code) (509) 488–3977 (509) 488–528	9 pr	all ogene@c1		4. CROPKIND (Common Name) Field Pea	
15. GENUS AND SPECIES NAME OF CROP PISUM SATIVUM		ALY NAME (Bota guminosa	,	17. IS THE VARIETY A FIRST GENERATION HYBRID? YES MONON	
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Folio reverse) a. Exhibit A. Origin and Breeding History of the Variety b. Exhibit B. Statement of Distinctness c. Exhibit C. Objective Description of Variety	ow instructions on	CERTIFI	IE OWNER SPECIFY THAT SEED OF ED SEED? See Section 83(a) of the YES (If "yes", enswer items 20 and 21 below) IE OWNER SPECIFY THAT SEED OF BE LIMITED AS TO NUMBER OF CL	NO (If "no", go to item 22)	
d. Exhibit D. Additional Description of the Variety (Optional) e. Exhibit E. Statement of the Basis of the Owner's Ownership			WHICH CLASSES? FOUNDAT		
f. Voucher Sample (2,500 viable untreated seeds or, for tuber proparties of that tissue culture will be deposited and maintained in a repository) g. Filing and Examination Fee (\$2,705), made payable to "Treasurer States" (Mail to the Plant Variety Protection Office)		IF YES, S		ENERATIONS?	
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYPE FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR UNTRIES? YES IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space in	TRANSFER OR USE	IF YES, F	YES	NO ILING OR ISSUANCE AND ASSIGNED	
24. The owners declare that a viable sample of basic seed of the variety will be for a tuber propagated variety a tissue culture will be deposited in a public retained to undersigned owner(s) is(are) the owner of this sexually reproduced or the and is entitled to protection under the provisions of Section 42 of the Plant V. Owner(s) is(are) informed that false representation herein can jeopardize pro	uber propagated plant variety Protection Act.	riety, and believe	or and continuous.		
SIGNATURE OF OWNER SUITH OF OWNER			OF OWNER	Harry A Constitution	
NAME (Please print or Type) Kurt Braunwart -Managing Owner		NAME (Plea	se print or type)		
CARACHY OR TITLE Managing Owner-L.L.C. DATE	20-02	CAPACITY	OR TITLE	DATE	

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

> Plant Variety Protection Office Telephone: (301) 504-5518 FAX: (301) 504-5291

Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

ITEM

18a. Give:

- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
- (2) the details of subsequent stages of selection and multiplication;

(3) evidence of uniformity and stability; and

- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
 - (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
- 19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
- 22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
- See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.
- 21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)
- 22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)
- U.S. May 2001; Release date & sale of seed for first commercial evaluation.
- 23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filling a change of address. The fee for filling a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. http://www.ams.usda.gov/lsg/seed/ls-sd.htm

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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S&T-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (02-99) which is obsolete.



860 S Crestline Othello, WA 99344 E-mail: progene@cbnn.net Cellular: (509) 989-0405 Fax: (509) 488-5289 Phone: (509) 488-3977

To: Mark Hermeling USDA/PVPO Washington, D.C.

From: Kurt Braunwart ProGene, L.L.C.

April 14, 2002

Subject: Application for PVP of field pea variety Journey EXHIBIT A. Origin and Breeding History of the Variety

The original hybrid cross that Journey (Hybrid cross number 8687) came from was made in 1986. The cross was between the following varieties:

Alaska 81 (WSU released variety) x PX-7214-2-2-1

PX-7214-2-2-1 is a germ plasm line which came from crossing 802092 {origin unknown} with Novella, which is a fresh freezer pea variety bred & owned by Rogers Brothers Seed Company – which is now part of Syngenta Seeds. The cross was made before ProGene purchased the breeding program from Rogers Brothers Seed Co. in 1995.

Following is a chronological progression of the cross up to the current position of Journey (8687-1g) as a variety.

	1987	F1:2 with bulk at harvest in Pacific Northwest
	1988	F2:3 with an SPD (Single Pod Decent) harvest from population
198	88/1989 W	inter Nursery in Indio California F3:4 with SPD
	1989	F4:5 population and 8687-6f came from the 6 th SPS (single plant selection) out of 13
	1990	F5:6 planted as a plant row and 8687-1g (Journey) came from the 1 st RS (Reselection) out of 2
	1991	F6:7 planted as a plant row and saved as a bulk
	1992	1 st year in the Preliminary Yield Trial
	1993	Program was dormant
	1994	Program was dormant
	1995	Program was purchased from Rogers by ProGene and 8687-1g was planted in Advanced Yield Trial
	1996	8687-1g was again planted in the Advanced Yield Trial
	1997	A small plot seed increase of 8687-1g with production of 149 lbs.
199	7/1998	A winter increase was attempted in Chile which failed totally
	1998	Further small plot seed increase
	1999	1 acre seed increase occurred in the dryland area of Genesee. Idaho.

Small acre seed increase of 10 acres was grown in the irrigated area of Othello, Washington.
 May / First Commercial sale of seed to evaluate edible production and qualities and also to evaluate the forage production and quality capabilities.

2002 April / application for PVP

Criteria used to select Journey as a variety to release in the Pacific Northwest of USA.

- **Smaller seed size** which lowers the cost of farmers planting for forage Production.
- Production of higher biomes of peas for forage production.
- **Persistent green** color of the seed as a visual advantage in the dry edible pea market. (persistent green is retention of green pigment in the seed coat after drying of the seed)

Statement of Stability and Uniformity

Journey has been observed by ProGene research personnel and Stubbs Seed Service over five generations of seed increase and has been found to be stable and uniform. Journey has been found to be uniform in all traits listed in schedule "C".

Statement of "No Variants"

Journey has been observed over the past five generations of seed increase with no variants being observed.



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To: Mark Hermeling USDA/PVPO Washington, D.C.

From: Kurt Braunwart ProGene L.L.C.

April 14, 2002

Subject: Application for PVP of field pea variety Journey EXHIBIT B. Statement of Distinctness

The variety most similar to Journey is Columbian (originally from Campbell's soup and handled as a public variety throughout the Pacific Northwest in the 1980s and 1990s and into the early 2000s). Both Journey and Columbian are "normal" Alaska plant type spring field peas. However there are some distinct differences. Seed size data comes from both University of Idaho statistical data and ProGene statistical data. Both programs use replicated yield trials using the randomized plot system. Days to First Bloom Data is from ProGene replicated trial data. All data is collected from North Idaho. Because Journey is a special niche variety it was not tested at as many institutions.

Seed Size – Journey seed size is consistently smaller than that of Columbian in all direct Comparisons except one where Journey and Columbian are the same size.

Nodes to first bloom – Journey and Columbian are dramatically different here with Columbian generally known to begin bloom on the 10^{tl} node (WSU & ProGene) while Journey generally begins bloom on the 14th node (ProGene).

Days to First Bloom - Journey consistently begins bloom later than Columbian (ProGene).

Dry Seed Color – Journey whole seed is a very distinct color with Royal Horticultural Society Colour Chart Color of 147 C while Columbian varies between 148 C & D on the same chart scheme (ProGene). Journey seed on the average has a darker green color in its seed coat (ProGene).

As an observation only, Journey has a huskier more robust vine and leaves than Columbian.

Several comparisons are made between Journey and Columbian in the Schedule "C" Objective Description of Variety.



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To: Mark Hermeling USDA/PVPO Washington, D.C.

From: Kurt Braunwart ProGene L.L.C.

July 20, 2002

Subject: Application for PVP of field pea variety Journey EXHIBIT B. Statement of Distinctness

Nodes to First Bloom comparison between Columbian and Journey

	ProGene 2001	ProGene 2002	Two Year Average
Columbian	10.3	9.9	10.1
Journey	14.0	13.8	13.9

04-20-2002

Journey / Columbian Grams per 100 Seds Cmparison

		====	========	========	=======	=======	
TREATMENT	UI2000	UI2001	Pro1999	Pro2000	Pro2003	1AVERAGE ========	======
Journey Columbi	13.10 15.70	14.60 18.00	16.25 18.65	15.75 15.70	20.00	15.94 17.79	.=======
======= AVGS	14.40	16.30	======== 17.45 ========	15.73	20.45	16.86 =========	.======

ANOVA SUMMARY TABLE

SOURCE	df	SS	MS	F ========	SIGNF
BLOCKS TREATMENTS ERROR	======================================	41.78 8.56 3.89	10.44 8.56 0.97	10.74 8.80	SIGNF SIGNF
TOTAL	9	54.23			

LSD(5%) = 1.73

CV= 5.85%

LSD SUMMARY TABLE:

TREATMENT	OBS. MEAN				
===========	===========	=======	=======	======	
Journey	15.94	A			
Columbi	17.79	В			

The the day of the or

ned personal Asia

04-20-2002

Journey / Columbian Days to First Flower Comparison

TREATMENT	Pro1999	Pro2000	Pro2001	AVERAGE	
Journey Columbi	55.00 50.00	53.00 52.00	53.00 46.00	53.67 49.33	
AVGS	52.50	52.50	49.50	51.50	 .=======

ANOVA SUMMARY TABLE

SOURCE	df	SS	MS	F	SIGNF
BLOCKS TREATMENTS ERROR	2 1 2	12.00 28.17 9.33	6.00 28.17 4.67	1.29 6.04	NS NS
TOTAL	5	49.50			

THE F-VALUE WAS NOT SIGNIFICANT. LSD COMPUTED MAY HAVE NO MEANING.

LSD(5%) = 7.59

CV= 4.19%

LSD SUMMARY TABLE:

TREATMENT	OBS. MEAN		
============			
Columbi	49.33	A	
Journey	53.67	A	

10 10 1 1 2 1 1 20.

8

instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY PLANT VARIETY PROTECTION OFFICE BELTSVILLE, MD 20705

EXHIBIT C (Pea)

OBJECTIVE DESCRIPTION OF VARIETY PEA (Pisum sativum L.)

NAME OF APPLICANT(S)	FOR OFFICIAL USE ONLY				
ProGene L.L.C.	PVPO NUMBER O O O O O O O				
ADDRESS (Street and No. or RD No., City, State, and Zip Code)	PVPO NUMBER 20020014				
860 S. Crestline Othello, WA 99344	VARIETY NAME Journey				
	TEMPORARY OR EXPERIMENTAL DESIGNATION 8687-1g				
PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes to place a zero in the first box (e.g. 0999 or 09) when number is either 99 or less or 9 or less responsiminum of 100 plants. Comparative data should be determined from varieties entered in the same trial be used to determine plant colors; designate system used:	pectively Data for quantitative plant characters should be been				
	our variety; lack of response may delay progress of your application.				
1. TYPE:					
2 1=Garden 2=Field 3=Edible-podded	4=Other (SPECIFY):				
2. MATURITY:	Part of the Control o				
Node number of first bloom: No. of days	processing Heat Units				
to physiological maturity 1=Columbian	= Thomas Laxton WR 3 = Little Marvel derman WR 6 = Austrian Winter 7= Other				
No. of days Later than 1=Columbian 4=Wando 5=Ale					
to physiological maturity 1=Columbian	derman WR 6 = Austrian Winter 7= Other				
No. of days Later than 1=Columbian 4 = Wando 5 = Ale 3. PLANT HEIGHT: 1 0 3 Cm. High (102.745 cm avg. maximum green	derman WR 6 = Austrian Winter 7 = Other height 3 yrs-3 sites)				
No. of days Later than 1=Columbian 4 = Wando 5 = Ale 3. PLANT HEIGHT: 1 0 3 Cm. High (102.745 cm avg. maximum green 1 0 Cm. Shorter than X Name of check cultivar	derman WR 6 = Austrian Winter 7 = Other height 3 yrs-3 sites) Columbian				
No. of days Later than 1=Columbian 4 = Wando 5 = Ale 3. PLANT HEIGHT: 1 0 3 Cm. High (102.745 cm avg. maximum green	derman WR 6 = Austrian Winter 7 = Other height 3 yrs-3 sites) Columbian				
No. of days Later than 1=Columbian 4=Wando 5= Ale 3. PLANT HEIGHT: 1 0 3 Cm. High (102.745 cm avg. maximum green 1 0 Cm. Shorter than X Name of check cultivar 4 0 Cm. Taller than X Name of check cultivar	derman WR 6 = Austrian Winter 7 = Other height 3 yrs-3 sites) Columbian Hero				
No. of days Later than 1=Columbian 4 = Wando 5 = Ale PLANT HEIGHT: 1 0 3 Cm. High (102.745 cm avg. maximum green 1 0 Cm. Shorter than X Name of check cultivar 4 0 Cm. Taller than X Name of check cultivar VINE:	derman WR 6 = Austrian Winter 7 = Other height 3 yrs-3 sites) Columbian				
No. of days Later than 1=Columbian 4 = Wando 5 = Ale 3. PLANT HEIGHT: 1 0 3 Cm. High (102.745 cm avg. maximum green 1 0 Cm. Shorter than X Name of check cultivar 4 0 Cm. Taller than X Name of check cultivar 4 0 Cm. Taller than	derman WR 6 = Austrian Winter 7 = Other height 3 yrs-3 sites) Columbian Hero 1 = Slim (Alaska) 2 = Medium (Thomas Laxton WR) Stockiness: 3 = Heavy (Alderman) (1.5)				

			8687-1g Journey
5. LEAFLETS: Color:	1 = Light Green (Alaska WR) 4 = Other (Specify) Color Chart # 137B	2 = Medium Green (Thomas Laxto 5 = Blue Green 6 = Yell	n WR) 3 = Dark Green (Alderman) ow Green 0 = Not Applicable 200200144
Wax:	1 = None 2 = Light 3 = Med 4 = Heavy 0 = Not Applicable	$ \begin{array}{ccc} \text{ium} & & & \\ \text{e} & & & \\ \end{array} $ $ \begin{array}{cccc} 1 & = \text{Not} \\ 0 & = \text{Not} \end{array} $	Marbled 2 = Marbled (Alaska Applicable
3 Number	of Leaflet Pairs: 1 = Not Pair		hree or More 0 = Not Applicable
3 Leaflet T	Type: 1 = Leafless 2 = Sen	ni 3 = Normal	
6. STIPULES:			
2 1 = Lack	cing 2 = Present	1 = Not Clasping 2 = Claspin	ng
	Marbled 2 = Marbled	Size (Compared with les	iflets):
2 1=Not	IYIAI DICU	1 = Smaller $2 = San$	ne t Applicable
	Compared with Boundary Co	= Lighter 2 = Same 3 = Darker olor Chart 137B	
Color:		reen 3=Dark-Green 4=Blue-Gree	
Color Chart Val	1999 137B 2001 137B	X Royal Horticulti Munsell Color C	ure Society Colour Chart
ات ا	e Size: 1=Small 2=Medium e comparative varieties (check v	3=Large arieties) and stipule color.	
Tlease provid	Variety (1)	Variety (2)	Variety (3)
VI J. I. Warnel	Columbian	Cruiser	Hero
Variety Name:	smaller than Journey	smaller than Journey	similar to Journey
Stipule Size:		137 A	137 C
Color Chart Value:	137 A	137 13	

PODS:	8687-1g Journey
2	Shape: 1 = Straight 2 = Slightly Curved 3 = Curved 200200144
2	End: 1 = Pointed (Alderman) 2 = Blunt (Alaska)
2	1 = Light Green (Alaska WR) Color: 4 = Other (Specify) 138 C 2 = Medium Green 3 = Dark Green (Alderman) 6 = Purple 7 = Yellow
1	Surface: 1 = Smooth 2 = Rough 2 = Dull
4	Borne: 1 = Single 2 = Double 3 = Single and Double 4 = Single, Double, & Triple 5 = Double & Triple 6 = Triple 7 = Other (Specify) 8 = Quad, Single, Double, Triple 9 = Quad
0	CM. Length 5.9 avg. 2 years 1 1 MM. Width (Between Sutures) 1 0 6 No. Seeds Per Pod 6.33 avg. 2 years
SEEDS (95	-100 Tenderometer):
	Color: 1 = Light Green 2 = Green 3 = Dark Green 4 = Other (Specify) 5 = Yellow 6 = Brown 7 = Yellow green
eive: %	1 2 3 4 5 6 7 8 Average
EEDS (Dry, N	Aature):
3	Shape: 1 = Flattened 2 = Angular 3 = Oval 4 = Rounded 5 = Splashed 6 = Flecked 7 = Bicolored
	Surface: 1 = Smooth 2 = Dimpled 2 = Surface: 1 = Shiny 2 = Dull 3 = Wrinkled
1	Color Pattern: 1 = Monocolor 2 = Mottled 3 = Striped 4 = Dotted
4	Primary Color 147 C Secondary Color 147 D 1 = Creamy - White 2 = Cream & Green 3 = Light Green 4 = Medium Green 5 = Dark Green 6 = Blue-Green 7 = Yellow 8 = Brown 9 = Red 10 = Gray 11 = Black 12 = Salmon 13 = Purple 14 = Tan 15 = White 16 = Pink 17 = Yellow-Green
2	Hilum Floor Color: 1 = White 2 = Tan 1 Cotyledon Color: 1 = Green 2 = Yellow 146 B 3 = Orange 4 = Cream Royal Horticulture Society Colour Chart
1	Grams per 100 Seeds (avg. 16.4 4 years)

a prop. 47	(O.N. 4 Warred 1 - Consensatibles 2	2=Resistan	8687-lg Journey
0. DISEASE:	(0=Not Tested; 1=Susceptible; 2 PLEASE INDICATE THE SPEC		200200411
2	Fusarium Wilt - Race 1		Fusarium Wilt (Near Wilt) - Race 2
	Stripe Rust (Puccinia striiformis)		Loose Smut (Ustilago tritici)
	Tan Spot (Pyrenophora tritici-repentis)		Flag Smut (Urocystis agropyri)
	Halo Spot (Selenophoma donacis)		Common Bunt (Tilletia tritici or T. laevis)
	Septoria nodorum (Glume Blotch)		Dwarf Bunt (Tilletia controversa)
	Septoria avenae (Speckled Leaf Disease)		Karnal Bunt (Tilletia indica)
	Septoria tritici (Speckled Leaf Blotch)	1	Powdery Mildew (Erysiphe graminis f. sp. tritici) (But Tolerant)
	Scab (Fusarium spp.)		"Snow Molds"
	"Black Point" (Kernel Smudge)		Common Root Rot (Fusarium, Cochliobolus and Bipolaris spp.)
	Barley Yellow Dwarf Virus (BYDV)		Rhizoctonia Root Rot (Rhizoctonia solani)
	Soilborne Mosaic Virus (SBMV)		Black Chaff (Xanthomonas campestris pv. translucens)
	Wheat Yellow (Spindle Streak) Mosaic Virus		Bacterial Leaf Blight (Pseudomonas syringae pv. syringae)
	Wheat Streak Mosaic Virus (WSMV)		Other (SPECIFY)
1	Other (SPECIFY) (Aphonomeces-		Other (SPECIFY)
1	Other (SPECIFY) (enation-but tolerant)		Other (SPECIFY)
	Other (SPECIFY)		Other (SPECIFY)
11. INSECT:	(0=Not Tested; 1=Susceptible; 2=Res	sistant)	
[0]	Aphids		Other (SPECIFY)

12. Additional information on any item above, or general comments that may aid in identification:

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